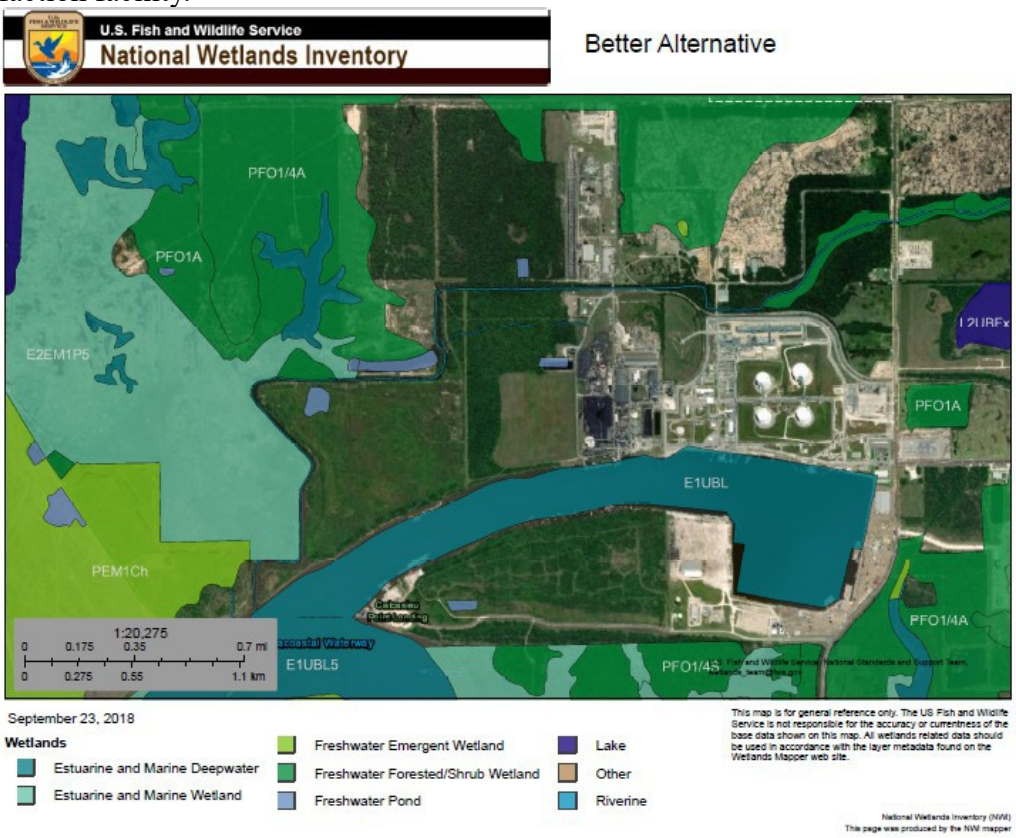
Comments
SWG-2008-00497
Kenneth Teague

- Note that the PN is very general and brief. Supporting information consists solely of numerous maps and drawings and a few tables. No explanations are provided. No mitigation plan is provided. Many of the following comments are based largely on much more detailed information provided in the DEIS. In general, the PN and supporting information is highly inadequate, particularly given the complexity of the proposed project and large scale of likely impacts to waters of the US.

The applicant has not demonstrated adequate consideration of alternatives.

- The applicant has not adequately evaluated all the reasonable alternatives for the proposed liquifaction facility.



- While the PN does not include information regarding alternatives considered, the DEIS did not evaluate an obvious alternative to the proposed LNG facility, located about 45.2 mi NE of the proposed site, on the eastern side of the lower Calcasieu River in southwest Louisiana:
  - The alternative location is the undeveloped upland tract on the N side of the dredged artificial water body in the image above. It seems highly likely that this alternative would impact fewer wetlands.

- It is not clear if the applicant sufficiently considered pipeline route alternatives that would have avoided and minimized impacts to waters of the U.S, more than the proposed alternative.
    - The applicant does not appear to have considered pipeline alternatives that are fully compliant with FERC's Plan and Procedures. Since the applicant requested many deviations from FERC's Plan and Procedures, such alternatives clearly should have been considered. They would almost certainly result in fewer wetland and water body impacts.
    - The applicant may not have considered, when deciding to cross tidal water bodies and coastal wetlands, the possibility that waters of the US might be impacted less if crossing methods other than were used. HDD is desirable for crossing upland streams in order to minimize impacts to stream habitat, water quality, and riparian wetlands. However, considerations are different in tidal waters and coastal wetlands. The coastal water bodies the proposed pipelines would cross may not contain habitats, other than emergent marsh, and much less likely, oyster reefs, which would warrant use of HDD. Review of the pipeline maps suggests that in these areas, impacts to wetlands at the sites of pipeline insertion and withdrawal, might be greater than the impacts to wetlands using other crossing methods. This needs to be checked. The crossing method with the least impacts to wetlands should be selected, when crossing wetlands.
    - I strongly recommend the applicant be required to demonstrate that for their proposed pipeline route, Louisiana Connector Project, Sabine Lake Crossing, they considered alternatives and demonstrated avoidance and minimization of impacts to aquatic resources as required by the 404(b)(1) Guidelines. They must demonstrate the proposed alternative is the LEDPA. Currently, the DEIS indicates the applicant considered alternatives and chose the proposed alternative, but no details are provided. In particular, note that the proposed alternative requires dredging of flotation channels. Apparently, these sediments have not been tested as per the Inland Testing Manual. I assert that alternatives that do not involve dredging of flotation channels likely would have fewer environmental impacts, and are probably the LEDPA.

The applicant does not demonstrate adequate avoidance and minimization of impacts to aquatic habitats.

- The applicant did not consider the LNG site alternative discussed above.
- The applicant did not consider alternatives that more fully (or fully) implement FERC's Plans and Procedures. Such alternatives would result in fewer impacts to wetlands and water bodies.
- The applicant has not provided any dredged material testing data, while the DEIS only asserts that it doesn't indicate any concerns.
- It is not clear if the applicant considered the potential negative impacts of HDD (at entry and exit points) to coastal wetlands, when they proposed HDD for crossing coastal water bodies, which likely are not particularly sensitive to other pipeline crossing methods.
- It is not clear if the applicant considered the impacts of dredging flotation channels through Sabine Lake, when they evaluated alternative pipeline routes.
- It is not clear that the applicant correctly assessed the suitability of dredged material for disposal in the aquatic environment. No data were provided. Additional data are proposed in the DEIS, but they are not proposed to be provided for public review and comment.

The PN and supporting information provided does not adequately disclose the likely impacts of the proposed project on waters of the US.

- Again, the PN provides very little information at all.
- The PN does not include appropriate dredged material testing data and analysis, for determination of suitability for disposal in the aquatic environment.
    - The PN does not mention the need for dredged material to be tested to determine suitability for disposal in the aquatic environment. The DEIS mentions that there is some dredged material testing data, and that it indicates the dredged material is suitable for disposal in the aquatic environment. However, no data are provided with either the PN, or in the DEIS. The public is expected to simply trust FERC, USACE and the applicant that this conclusion is correct. It is also my experience that few people working on the Texas/Louisiana coast understand how to properly test dredged material, and how to interpret the results.
    - The DEIS proposes the sponsor will conduct additional dredged material testing in the future. However, no commitment to provide these data to the public for review and comment exists in the DEIS. Again, the PN is silent on this subject.
    - The question of whether dredged material is suitable for disposal in the aquatic environment is particularly important, given that much of the required compensatory mitigation is proposed to be provided via creation of coastal marsh using this dredged material. If the dredged material is not properly tested, it will be unknown whether it is suitable for disposal in the aquatic environment. If that were to be the case, no permit should be issued for the proposed mitigation effort, or for this proposed project.
    - In view of the fact that Taylor Bayou is listed for dioxin and PCBs, and these contaminants are typically adsorbed to sediments, I strongly recommend the applicant be required to test the sediments/soils in and near Taylor Bayou, which would be disturbed by the proposed project, for dioxin and PCBs, at a minimum. Testing protocols should be based on the proposed disposal method. Any soils/sediments proposed for disposal in open water should be tested according to the Inland Testing Manual. Those proposed for disposal in upland confined disposal facilities, should be tested as per the Upland Testing Manual.
    - Sediment from Sabine Lake proposed to be dredged for flotation channels for pipeline placement should be tested for contaminants as per the Inland Testing Manual.
    - Results should be provided for public review and comment. No Clean Water Act permit should be issued unless and until this is completed, and proposed disposal is consistent with testing results.
    - This dredged material should not be permitted to be disposed of in the aquatic environment until it is demonstrably properly tested according to the Inland Testing Manual, and the results provided to the public for review and comment.

- Both the PN and the DEIS do not adequately disclose the potential impacts of construction and operation of the liquifaction plant, on nearby water quality.
  - The DEIS implies there is no need to evaluate the potential impacts of construction and operation of the liquifaction plant on water quality, because the sponsor asserts that *because the facility is an oil and gas production facility, it is exempt from stormwater runoff regulatory requirements.*
  - While I do not know if this is correct, it is a cynical interpretation of the law if it is. Nevertheless, regardless of the law on environmental regulation of oil and gas production facilities, and their interpretation, Section 404 of the Clean Water Act requires consideration of potential impacts to water quality. Clearly, during construction and operation of the facility, stormwater runoff would carry pollutants into nearby water bodies. In fact, if best management practices to minimize stormwater pollutant loading are not implemented, because they are not required, then the pollutant loadings from stormwater would be even greater, and thus the potential for water quality impacts would be greater.

- Neither the PN or the DEIS disclose the potential impacts of proposed dredging on dissolved oxygen concentrations in bottom waters. Dredged channels often experience lower DO concentrations in bottom waters than undredged water bodies. Low DO renders aquatic habitat unsuitable for aquatic life.

- Again, the PN does not include any details regarding impacts of the proposed pipelines on waters of the US. The DEIS, similar to other assessments of pipeline impacts I have reviewed recently, does not factually state the real impacts to wetlands.
  - The DEIS asserts that forested wetlands can be destroyed, and they will simply restore themselves if allowed to do so. This cannot be assumed. While it is possible, it is also highly likely that whatever vegetation establishes on these sites will not be similar to what was there before. In addition, even if forested wetlands reestablish here, there will be a highly significant temporal loss of function, perhaps for as long as a century, potentially even more. The applicant should be required to mitigate fully for all losses of forested wetlands, even if deemed “temporary”. Any proposals for restoration of forested wetlands impacted by these pipelines should require vegetative plantings of the tree species that were destroyed by the proposed pipeline, assuming they were representative of the pristine ecosystem at these locations. Plantings should be monitored, and if unsuccessful, they should either be replanted, or other in kind mitigation should be required.
  - The DEIS asserts that shrub wetlands can be destroyed, and they will simply restore themselves if allowed to do so. This cannot be assumed. While it is possible, it is also highly likely that whatever vegetation establishes on these sites will not be similar to what was there before. In addition, even if forested wetlands reestablish here, there will be a significant temporal loss of function, perhaps for as long as several decades. The applicant should be required to mitigate fully for all losses of shrub wetlands, even if deemed “temporary”. Any proposals for restoration of shrub wetlands impacted by these pipelines should require vegetative plantings of the shrub species that were destroyed by the proposed pipeline, assuming they were representative of the pristine ecosystem at these locations. Plantings should be monitored, and if unsuccessful, they should either be replanted, or other in kind mitigation should be required.

- The DEIS asserts that herbaeous wetlands (marshes) can be destroyed, and they will simply restore themselves if allowed to do so. This cannot be assumed. While it is possible, it is also possible that whatever vegetation establishes on these sites will not be similar to what was there before. In addition, even if herbaceous wetlands reestablish here, there will be a temporal loss of function, perhaps for as long as a decade. The applicant should be required to mitigate fully for all losses of herbaceous wetlands, even if deemed "temporary". Any proposals for restoration of herbaceous wetlands impacted by these pipelines should require vegetative plantings of the species that were destroyed by the proposed pipeline, assuming they were representative of the pristine ecosystem at these locations. Plantings should be monitored, and if unsuccessful, they should either be replanted, or other in kind mitigation should be required.
- The PN is silent on the impacts of pipeline crossings of streams and other water bodies. In addition, the DEIS does not disclose, with any meaningful detail, the impacts of the pipeline crossings through water bodies.
- Neither the PN nor the DEIS include any detailed assessment of the impacts of proposed pipeline crossings of upland stream habitats, water quality, or aquatic communities. No mitigation for such impacts is proposed. Based on my experience, this appears to be inconsistent with the policies of the Galveston District, USACE.
- Neither the PN or the DEIS disclose the impacts of fragmentation of forested wetlands, caused by the proposed pipeline routing.

The PN does not discuss mitigation in any detail and the DEIS does not propose adequate environmental mitigation for some project impacts.

- Proposed mitigation for impacts to coastal marsh at the liquifaction facility appears to be adequate, except for the following.
  - However, dredged material still must be tested, and marsh creation should only be allowed if dredged material is demonstrated to be suitable for disposal in the aquatic environment, as per the Inland Testing Manual.
  - In addition, no details are provided regarding marsh creation plans, so it is impossible to evaluate the likelihood of success.
  - It is not clear that the acreage of marsh creation being committed to is marsh only, or whether it is a mix of marsh and water. Mixed marsh/water should not be considered equivalent to marsh only, and models that suggest that mixed marsh/water is more functionally valuable than marsh only, should not be used to justify mitigation requirements less than the area of impacted wetlands.
  - The PN is silent on the subject and the DEIS is unclear regarding whether the full cost of compensatory mitigation for wetland impacts at the liquifaction facility is to be borne by the sponsor, or whether government agencies are planning to bear some of the cost.
    - The DEIS indicates that the project sponsor will provide dredged material for creation/restoration of estuarine marshes on property of Texas Parks and Wildlife Department. However, it is unclear whether the project sponsor will be responsible for all aspects of the required mitigation, or whether the sponsor's mitigation requirement will be subsidized by efforts of Texas Parks and Wildlife Department, and possibly other agencies or government funds (e.g. DU, Restore Act funds). The latter would represent an unacceptable Federal/State subsidy of mitigation costs that is not compliant with the Mitigation Rule.
  - Finally, I continue to recommend the project sponsor offer to use all clean dredged material for marsh creation. Currently, not all dredged material is committed to marsh creation.

- While the PN does not provide any information regarding mitigation, the mitigation proposed in the DEIS for the proposed pipelines, for impacts to wetlands and stream habitats, is particularly inadequate. No mitigation is proposed for impacts of pipeline crossings of streams.
    - Due to the long time required for forested wetland restoration, the PN and DEIS should have committed to provide mitigation for temporal impacts, which they do not.
    - Rather than requiring the environment to absorb the temporal impacts, the applicant should be required to expedite restoration of wetlands impacted by the proposed pipeline, by vegetative plantings.
    - No mitigation is proposed for impacts to water bodies from pipeline crossings.